

ABSTRACT

Methods and systems of providing power to a central processing unit (CPU) provide for enhanced surge protection during CPU current consumption going from high current to low current consumption. In one approach, a circuit as a power output stage with an output node, and a controller circuit coupled to the power output stage. The controller circuit selectively switches the power output stage into a current ramp down mode based on detection of a voltage surge at the output node. The power output stage has an associated current ramp down rate. The CPU is coupled to the output node and a surge notification input of the power output stage, where the power output stage accelerates the current ramp down based on a notification signal from the CPU for a duration proportional to the change in CPU current consumption from high to low current consumption.